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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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SONNENSCHN NATH & ROSENTHAL LLP
P.O. BOX 061080
WACKER DRIVE STATION, SEARS TOWER
CHICAGO, IL 60606-1080

EXAMINER

AMINI, JAVID A

ART UNIT

PAPER NUMBER

2672

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/909,714

Applicant(s)

MATSUI ET AL.

Examiner

Javid A Amini

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 and 7-14 rejected under 35 U.S.C. 103(a) as being unpatentable over Utagawa et al. and further in view of Numazaki et al.

1. Claim 1.

Utagawa et al. in (col. 1, lines 9-17) teach the step of "A display control apparatus for controlling a display apparatus which displays an image in digital gradation", Utagawa et al. in Fig. 41, steps A53b and A53c teach the two inputting digital values corresponding to pixel values which compose the image; Utagawa et al. in (col. 21, lines 28-38) teach the step of "signal production means for producing a signal for driving display apparatus so that light of divisional light amounts obtained by dividing light amounts corresponding to bits which compose the digital values may be emitted in a such manner as to be distributed within a time corresponding to one screen". Utagawa et al. does not explicitly specify the step of "a first light amount corresponding to a predetermined bit and a second light amount corresponding to a bit in a lower order by one bit to the bit are divided, the first and second light amounts being divided so that the division number of the first light amount may be smaller than twice the division number of the second light amount", Examiner interpretation: first and second lights of applicant is equivalent of

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Numazaki et al.'s phrases state-3 and state-2 or state-2 and state-1 use in Fig. 100. Applicant in the claim specifies the first light amount may be smaller than twice the division number of the second light amount. However, Numazaki et al. in Fig. 100 and (col. 72, lines 51-62) teach the light amount are doubled from "state-3" to "state-2" and from "state-2" to "state-1". Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Numazaki et al. into Utagawa et al. to modify the Utagawa et al.' system to be able to produce conversion precision when the input signal is large (nonlinear conversion).

2. Claim 2.

The step is obvious because Utagawa et al. in Fig. 12 teach the limitation such as the direction of time using the timing generator step of B74.

3. Claim 3.

Utagawa et al. Do not explicitly specify the step of the signal for driving display obtained by dividing the light amounts corresponding to the bits may be emitted at timings at which the light may be symmetrical within the time corresponding to one screen. However, Numazaki et al. in (col. 45, lines 22-36) teach a correction unit step 725 in Fig. 60.

4. Claim 4.

Utagawa et al. do not explicitly specify the step of a signal for driving display apparatus so that the light of the divisional light amounts obtained by dividing the light amount corresponding to a predetermined bit and the light of the divisional light amounts obtained by dividing the light amount corresponding to a bit adjacent to the bit may be emitted at timings close to each other

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within the time corresponding to one screen. However Numazaki et al. in (col. 46, lines 24-67) and Figs. 63, 65 teach the steps.

5. Claim 7.

The step is obvious because, Utagawa et al. in (col. 9, lines 57-63) teach the step of the display apparatus includes light emission for emitting light of fixed or variable intensity.

6. Claim 8.

The step is obvious because, Utagawa et al. in Fig. 26 steps FL1 and FL2 teach the step of light emission is formed from a light source, which emits light of fixed or variable intensity.

7. Claim 9.

The step is obvious because, Utagawa et al. in Fig. 26 step SSW teach the step of light emission is formed from a light source for emitting light of fixed or variable intensity, and a light valve for switching on/off the light source.

8. Claim 10.

The step is obvious because, Utagawa et al. in Figs. 24A and 24B teach the step of signal production produces the signal for causing said light emission to emit pulse width modulated light or intensity modulated light.

9. Claim 11.

The step is obvious because, Utagawa et al. in Fig. 45 teach the step of signal production means produces the signal for causing light emission to emit pulse width modulated light and intensity modulated light. Examiner interpretation: light pulse width modulated and intensity (brightness/luminance) modulated means the same thing.

10. Claim 12.

The step is obvious because, Utagawa et al. in Fig. 39 step A52a (color filters) teach the step of light emission emits light of a plurality of color components.

11. Claim 13.

The step is obvious because, Utagawa et al. in Figs. 36A and 36B teach the step of signal production produces the signal for causing digital gradation display by a plane sequential rewriting method to be performed.

12. Claim 14.

Utagawa et al. in (col. 1, lines 9-17) teach the step of "A display control method for controlling a display apparatus which displays an image in digital gradation", Utagawa et al. in Fig. 41 teach steps A53b and A53c which are two inputting digital values corresponding to pixel values which compose the image; Utagawa et al. in (col. 21, lines 28-38) teach the step of "signal production step of producing a signal for driving said display apparatus so that light of divisional light amounts obtained by dividing light amounts corresponding to bits which compose the digital values may be emitted in such a manner as to be distributed within a time corresponding to one screen"; Utagawa et al. does not explicitly specify the step of "where both of a first light amount corresponding to a predetermined bit and a second light amount corresponding to a bit in a lower order by one bit to the bit are divided, the first and second light amounts being divided so that the division number of the first light amount may be smaller than twice the division number of the second light amount", Examiner interpretation: first and second lights of applicant is equivalent of Numazaki et al.'s phrases state-3 and state-2 or state-2 and state-1 use in Fig. 100. Applicant in the claim specifies the first light amount may be smaller than twice the division number of the second light amount. However, Numazaki et al. in Fig. 100 and (col. 72, lines 51-62) teach the

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light amount are doubled from "state-3" to "state-2 and from "state-2" to "state-1". Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Numazaki et al. into Utagawa et al. to modify the Utagawa et al.' system to be able to produce conversion precision when the input signal is large (nonlinear conversion).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5-9 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

13. Regarding claim 5, the phrase "may be" renders the claim indefinite because it is unclear whether the limitation of the phrase discloses at the top/middle/bottom. See MPEP § 2173.05(d).

14. Regarding claim 6, the phrase "may be" renders the claim indefinite because it is unclear whether the limitation of the phrase discloses equal or smaller or the difference of the first and second lights. See MPEP § 2173.05(d).

15. Regarding claims 7-9, the phrase "or" renders the claims indefinite because the claims includes elements not actually disclosed (those encompassed by "or"), thereby rendering the scope of the claims unascertainable. See MPEP § 2173.05(d). Examiner interpretation: Fix and variable intensity are two different sources. Fix intensity considers as a linear system and variable intensity considers as a non-linear system. Therefore there is a major difference.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javid A Amini whose telephone number is 703-605-4248. The examiner can normally be reached on 8-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 703-305-4713. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-8705 for regular communications and 703-746-8705 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

Javid A Amini
Examiner
Art Unit 2672

Javid Amini
July 24, 2003



MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER